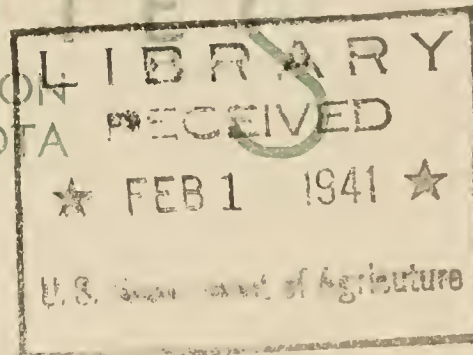


Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

TECHNICAL NOTES

LAKE STATES FOREST EXPERIMENT STATION
UNIVERSITY FARM ST. PAUL, MINNESOTA



1.9
F7625T

Storage of Red Pine Seed

Heavy crops of red pine seed usually occur only at intervals of from 3 to 5 years; therefore, considerable quantities must be collected and stored for use in those years when there is no crop.

In order that the viability of the seed may be maintained during the storage period, the conditions of storage are important.

In 1930 the Station put into storage some red pine seed of the 1928 crop. At the time of storing, the moisture content of a portion of the seed was reduced from its original 5.3 percent to 4.7 percent and the moisture content of the remainder was increased to 6.5 percent. Samples of seed of both moisture contents were stored in four different places. Some of the seed was taken out in 1936 and germinated. In 1940, 10 years after it was first put into storage, the remainder was tested for germination. The following table shows the results:

Germination of Red Pine Seed after Storage at Different Temperature and Moisture Conditions

Temperature condition	Moisture content at beginning of storage, 1930	Total germination percent	
		1940	1936
	Percent		
32-39° F.--Cold Room	(4.7	97.5	95.4
	(6.5	97.0	94.8
41-50° F.--Cold Room	(4.7	93.2	90.8
	(6.5	57.4	90.6
32-68° F.--Underground cellar	(4.7	58.9	94.4
	(6.5	33.7	89.6
0-100° F.--Unheated attic	(4.7	46.2	66.8
	(6.5	26.4	56.8

These results indicate that red pine seed can safely be stored in tightly sealed containers at temperatures of 32° to 40° F., with moisture contents of not more than 6.5 percent, for at least 10 years. Slightly higher temperatures--up to 50° F.--may be used safely if the original moisture content of the seed is reduced to less than 5 percent.

No. 173

January 1941

Assistance in the preparation of this material was furnished by the personnel of Work Projects Administration, O.P. 165-1-71-124, Sponsor, University of Minnesota, and O.P. 101-2-71-28, Sponsor, Lake States Forest Experiment Station.

